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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,093	04/06/2001	Tetsuji Mitsumoto	4296-135 US	5491
7590 12/05/2006 MATHEWS, COLLINS, SHEPHERD & GOULD, P.A. 100 THANET CIRCLE, SUITE 306 PRINCETON, NJ 08540			EXAMINER MANOHARAN, VIRGINIA	
			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,093

Applicant(s)

MITSUMOTO ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-10,12-17 and 19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,4-10,12-17 and 19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claims 1, 4-8, 10, 12-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6,214,174) with or without Nutter (4,304,738).

The above references are applied for the same reasons as set forth at page 3 of the previous Office Action, dated August 9, 2005.

The claimed dual flow tray is not an unobvious subject matter nor is it evidence of criticality in the art as taught by Nutter. See Nutter's definition of a dual flow tray at column 6, lines 27-38. It is also noted that Matsumoto et al did not specifically mention the claimed "liquid passing openings in the joint part between the support ring and the inner wall", however, Matsumoto's disclosure at col. 4, lines 47-56 would at least be suggestive of the above claimed limitation. That is, Matsumoto's suggestion that the liquid hole 8 forming at least a position such that the tray 1 does not cover the whole part of the liquid hole 8 allowing the liquid to smoothly flow down from surfaces of the tray 1 and the tray supporting member..." would presupposed positioning the liquid openings at least where effective results are obtained. Moreover, whether the clamp is vertical as claimed, or horizontal as in Matsumoto is of no patentable moment. The same art- recognized functions are achieved, either way.

Claim 9 is rejected under 35 U.S.C. 103(a) as obvious over Matsumoto et al (6,214,174) with or without Nutter (4,304,738) in view of Binkley et al (5,164,125).

Binkley is applied for the same reason as set forth at the first paragraph, page 4 of the previous Office action, dated August 9, 2005.

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Binkley's splash deflector is deemed to correspond to the claimed splash collision plate, i.e., a dualflow tray or a disc-and-doughnut type collision plate, at least in function. See e.g., col. 12, lines 10-23. The plate of Binkley is deemed also to have openings in the range of 10% to 90% relative to a cross section of the column as broadly claimed, especially since the cross section of the column has not been defined. Nonetheless, the claimed range(s) is deemed to be a result —effective variable which ordinarily is within the skilled of the art. As evidence, note col.7, lines 1-11 of the Nutter's reference.

Applicants' arguments filed November 6, 2006 have been fully considered but they are not persuasive.


Applicants' assertion that "Applicants note that the limitations of claim 10 of the distillation column having a dual flow tray are present in amended claim 1 and previously presented claim 9... Accordingly, claims 1 and 9 are allowable" is not considered well-taken. However, claim 10 is dependent on claim 9. The claims are allowable if rewritten to include the limitations of the intervening claim 9. That is, the combination the limitation of the base claim 1 and the splash collision plate of claim 9 distinguishes the claims from the prior art and makes the claims allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-272-1450.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VIRGINIA MANOHARAN
PRIMARY EXAMINER
ART UNIT 132 / 1764